



TITLE:

Studies on the Alcoholization of Cellulose Materials. (VII) : On Pentose-assimilable Yeasts

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The antibacterial powers varied according to the kinds of cultural solutions; the retting bacteria produced antibiotics with the extract of ramie fiber materials while a maximum antibacterial action was observed with glucose bouillon culture.

The retting bacteria revealed antibacterial action on eleven strains of bacteria among fourteen strains isolated from a naturally fermented solution composed of peptone water and fiber materials of wild ramie plant, especially on a strain showing the most similar nature as *B. subtilis*.

From the above experimental results, the fermentation retting by *B. subtilis* var. ramie would be concluded to be carried out safely without any troublesome contamination.

No satisfying effect on retting of fiber materials of cultivated and wild ramie plants was ever observed with the known strains of *B. subtilis* and natto-bacilli by which remarkable amount of antibiotics was produced. Therefore, *B. subtilis* var. ramie was found to reveal an excellent nature on the retting of ramie fiber materials.

37. Studies on the Alcoholization of Cellulose Materials. (VII)

On Pentose-assimilable Yeasts.

Chuji Tatsumi, Eiichi Horino and Hideo Katagiri.

In the previous papers,¹⁾ Alcoholization of saccharified solution of cellulose materials by Scholler's method was reported by us.

Pentose-assimilable yeasts were isolated with spent wash obtained from the saccharified solution of Mulberry-tree added by d-xylose with and an artificial medium containing d-xylose as the only source of carbon.

Among various kinds of materials including corn, waste parts of vegetables, potato, rice hulls, barley straw, rice straw, stable manure and soil, the most useful strains of yeast No. 100, 103 and 107 were isolated from the former three materials respectively, which gave better results compared with the known yeast *Torula utilis*.

No peculiar chemical constituents were found in these yeast cells, therefore these yeasts would be useful for foodstuff.

From their characteristics, these yeasts were all found to belong to new strains of *Torulopsis* according to Lodder's classification, and we named the yeasts, No. 100, 103 and 107 *Torulopsis xylinus* a, b and c respectively.

1) Katagiri and Tatsumi: This Bulletin, 15, 39 (1946); 16, 46 (1947); 17, 145 (1949); 18, 43 (1949); 19, 62 (1949); and 20, 66 (1950).